

Myxoedematous madness and *The Citadel*

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The first patient I saw with myxoedema madness was the 55-year-old secretary to the chairman of one of Britain's major corporations, a physicist of distinction. 'Marvellous woman, been with us for years, but she's become distinctly odd. The company doctor's seen her a couple of times but he says it's her age.' His lordship spread his arms in despair. 'But she's not that old—about 55. Would you be kind enough to give her the once over?'

Two weeks later Miss Paget (not her real name) presented herself in outpatients. As I rose to greet her, the diagnosis was obvious: she had a severely underactive thyroid gland and was myxoedematous. Miss Paget denied that she was ill beyond a little tiredness. On direct questioning she admitted to many of the symptoms that patients with severe thyroid deficiency have. Yes, she did like the central heating turned up high in her flat because she always felt cold. Well, yes, she *was* constipated but had been for years. She agreed her work was becoming more difficult but people used such complicated words nowadays, and she could not always hear what was on the tape recorder. Unexpectedly Miss Paget suddenly winked at one of the medical students sitting beside me. 'If you ask me,' she said in a slightly slurred croaky voice, 'his lordship doesn't understand half of what's going on—past it, he is.'

Such behaviour and such a remark were surely out of character. Nor, having heard his lordship chair several meetings of the medical school council, did I think it true. Miss Paget was admitted to hospital there and then, not so much because she was suffering from the usual symptoms of severe thyroid deficiency, but because of her mental state. She was also an excellent teaching case—for both medical and nursing students. She needed no persuasion; her niece would pack a suitcase and bring all that was necessary to the ward.

Shortly after half past twelve the staff-nurse in outpatients said the ward-sister wanted to speak to me on the telephone. 'I'm having a bit of trouble with Miss Paget,' Sister said. 'She won't eat lunch because she says it's poisoned.'

I laughed, 'She *must* have myxoedematous madness. I'll be with you in a minute.' Miss Paget was sitting at the table in the centre of the ward with the other up-patients—a plate of untouched macaroni cheese in front of her.

'What's the problem, Miss Paget?'

'I can't eat this; it's poisoned.' She spoke quietly but her speech was slurred.

'Surely not. Let me taste it.' With a spare fork I spiked some of the macaroni and put it in my mouth, chewed slowly and then swallowed it. It's all right, I promise you. It's done me no harm. Come on, you have a taste.' Cautiously she did. I went back to finish outpatients.

Just after half-past-one when the last patient had gone and the notes were being gathered up, I was summoned to the 'phone again. 'I'm sorry to bother you but we've got another problem with Miss Paget...'

'Okay, I'll drop in on my way to lunch.'

A few minutes later I swept into the ward. 'What's the problem now?' I asked, slightly irritated.

'She's undressed—behind those curtains—but refuses to get into bed,' Sister said.

'Why?'

'Because the bed linen's been poisoned.' There was the hint of a smile on Sister's face.

I stared at her in disbelief and then I smiled too. 'And to persuade her that the bed linen's all right, I suppose you want me to get into bed? On my own or with her—which would you suggest, Sister?' I laughed. 'Ask the houseman to cope; I'm going to lunch.'

Two months later when Miss Paget returned to work, his lordship was astonished at the change in her. She too was pleased that she felt so much better, taking just two tiny white tablets of thyroxine a day.

CRONIN'S HERO

How had I come to make the right diagnosis? As a medical student I'd never been taught about myxoedematous madness, but like everyone else I'd read about it in A J Cronin's *The Citadel*¹ which had first been published in 1937 when I was a Cambridge undergraduate. A novel with strong autobiographical undertones, it combined a romantic narrative with a vivid portrayal of people, particularly the poorer members of society. Its medical revelations caused a sensation. Some people believe that *The Citadel* was largely responsible for the social revolution that led to the introduction of the British National Health Service a decade later, because it describes sympathetically a sometimes angry, ambitious young doctor who criticizes the lack of any practical training for general practitioners after qualification

and the greed of Harley Street 'specialists' who practised without higher degrees, special training or hospital appointments.

Cronin was born in 1896. He graduated from Glasgow University in 1919 after his medical studies had been interrupted in 1916 by service as an unqualified surgeon sublieutenant in the Royal Naval Volunteer Reserve. After qualifying, Cronin started medical practice in a mining town in Wales. While there he obtained a Diploma in Public Health in 1923, his Membership of the Royal College of Physicians in 1924 and his MD from Glasgow University in 1925—impressive achievements for anyone, let alone someone working in general practice.

The Citadel was Cronin's fourth novel. Launched with a brilliant publicity campaign mounted by its publisher, the Polish immigrant Victor Gollancz, the demand for the 30 000 copies available on the first day of publication was so great that the printing of another 10 000 was put in hand that afternoon. By the end of the month four more impressions were needed; in the first 12 days the total sales were 80 000—remarkable even at a time when there was no competing television. Between August 1937 and the end of the year another 85 000 copies were sold. In the pre-war years everyone knew about *The Citadel*. It is unlikely that Cronin intended it as a weapon of propaganda. Essentially it is a sentimental romantic novel, relating too many different medical events to have the flavour of a political broadsheet.

The criticisms expressed by Cronin in *The Citadel* were deeply felt by the medical profession. Cronin rescinded his medical registration with the General Medical Council and after his death in Switzerland in 1981 no obituary appeared in the *British Medical Journal*; *The Lancet* afforded him just two lines. The hero in *The Citadel* is Dr Andrew Manson, who practises in a Welsh mining town and is summoned at six o'clock one morning to add his signature to a form certifying that a miner is a dangerous lunatic. The miner, Emrys Hughes, 'had been acting strangely lately, getting into trouble at the mine, losing his memory. He had turned quarrelsome and violent. He had set upon his wife with a carving knife.'

Andrew Manson sees the patient and

at first he hardly recognises him. The change was not gross... but... his features coarsened in some subtle way. His face seemed swollen, his nostrils thickened, the skin waxy, except for a faint reddish patch that spread across his nose. His whole appearance was heavy, apathetic... He muttered unintelligibly. Then, clenching his fists, he came out with a tirade of aggressive nonsense.

There must be some reason... symptoms don't just happen of themselves... Manson instinctively reached out and touched the swollen face, noting subconsciously, as he did so, that the pressure of his finger left no dent in the oedematous cheek.

All at once, electrically a terminal vibrated in his brain. *Why didn't the swelling pit on pressure? Because—now it was his heart which jumped!—because it was not true oedema but myxoedema. He had it, by God, he had it. No, no, he must not rush.*

Curbing himself, he lifted Emrys' hand. Yes, the skin was dry and rough, the fingers slightly thickened at the ends. Temperature—it was subnormal. Methodically he finished the examination, fighting back each successive wave of elation. Every sign and every symptom, they fitted as superbly as a complex jig-saw puzzle. The clumsy speech, dry skin, spatulate fingers, the swollen inelastic face, the defective memory, the attacks of irritability culminating in an outburst of homicidal violence...

'In my opinion,' says Andrew Manson, 'Hughes is only sick in mind because he's sick in body. I feel he's suffering from thyroid deficiency—an absolutely straight case of myxoedema.' Treatment with thyroid extract is started.

There was a period of quivering anxiety, several days of agonising suspense, before Hughes began to respond to the treatment. But once it had started, that response was magical. Emrys was out of bed in a fortnight and back at his work at the end of two months.

Today we might be surprised at the speed of the patient's improvement but Cronin could not have written such an account unless he was familiar with myxoedema and myxoedematous madness. Indeed this case seems to have made such an impression on him that he relates another, or perhaps the same one, fifteen years later, in his autobiography, *Adventures in Two Worlds*². Here the patient is Alex Deans, a gardener whose first 'symptom' is to plant beady, yellow calceolarias instead of red geraniums—bonny Scarlet Wonders—in Dr Cameron's flower bed, much to the doctor's annoyance. Gradually Alex Deans, 'who had been so silent and self-contained was now guilty of the wildest eccentricities. He would argue fiercely, stupidly and come to blows about a trifle'. Cronin is called to certify Deans as insane; and, as with Emrys Hughes...

I hardly recognised him. The change was not gross... but a blurred and altered Deans... his face seemed swollen, the nostrils thickened, the lips broad, the skin waxy, except for a faint reddish patch that spread across the nose. His appearance was apathetic, and when I spoke to him he muttered some absurd reply so slurred it was unintelligible... I took his temperature—it was subnormal. I pressed the swollen, oedematous face—the swelling was firm, inelastic, and did not pit on pressure... all at once a light broke upon me. I had it! Myxoedema. Deans wasn't insane. He was a clear case of thyroid deficiency. Every sign and every symptom—they fitted in, neatly, like a jig-saw puzzle. The defective memory, slow mentation, steady deterioration in intellect; the outbursts of irritability, of homicidal violence; the clumsy speech, dry skin, spatulate fingers, and swollen, inelastic face.

Alex is treated with thyroid extract and in a few weeks is restored to normal. It is conceivable that Cronin did see

two male patients with myxoedema mania, but this seems unlikely when the disease is so much more common in women than in men. Can an author plagiarize himself or was Cronin's remembrance of one patient with the condition so unforgettable that he replicated it?

ASHER

The medical profession of the next generation were alerted to the condition by a paper entitled 'Myxoedematous madness' by Richard Asher published in the *British Medical Journal* in 1949³. Asher was a consultant physician at the Central Middlesex Hospital where he oversaw the mental observation ward to which twenty patients with myxoedematous madness were admitted over a ten-year period. Asher says that he first learnt of the condition from *The Citadel* although it had been well described by a special committee of the Clinical Society of London established in 1883 to report on myxoedema⁴, at a time when there was no known treatment for the disease and delusions and hallucinations occurred in nearly half the patients, mainly in those with advanced disease.

In his long article, with before-and-after photographs, Asher reviews fourteen patients, all female, who ranged in age from 50 to 74 except for one young doctor aged 33. Two died within a few days, nine recovered completely from their mania, two recovered partly and one did not change. None of Asher's patients had been diagnosed before admission, and the psychotic manifestations ranged from hallucinations, hypomania and delusions to a persecution

complex. Asher claimed that from his experience myxoedema was one of the most often missed causes of organic psychosis and was much commoner than was generally believed because many patients were sectioned to psychiatric institutions where the diagnosis was missed.

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Today myxoedematous madness is less common because doctors are more aware of the condition and patients are diagnosed and treated earlier in the course of their thyroid deficiency. The diagnosis is easiest to make when the doctor, or a relative, has not seen the patient for some long time and the subtle gradual changes are more likely to be obvious. A raised level of the thyroid stimulating hormone and, in those few cases who have not had a thyroidectomy or radio-iodine treatment for hyperthyroidism, a raised titre of microsomal peroxidase and thyroglobulin antibodies, is all that is required to confirm the diagnosis.

The Citadel is still well worth reading, though it will earn you no points for your CME.

REFERENCES

- 1 Cronin AJ. *The Citadel*. London: Gollancz, 1937, 65–70
- 2 Cronin AJ. *Adventures in Two Worlds*. London: Gollancz, 1952, 72–8
- 3 Asher R. 1949. Myxoedematous madness. *BMJ* 1949;ii:555–62
- 4 Report of a committee of the Clinical Society of London nominated Dec. 1, 1883 to investigate the subject of myxoedema. *Clin Soc Trans* 1888;21(suppl).